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REMARKS

This is in response to the Office Action mailed August 11, 2005.

Claims 1 and 3-19 are pending. Claim 2 is cancelled without prejudice or disclaimer and the subject matter of claim 2 is added to claim 1. Claims 1-8 and 15-19 are amended and contain no new matter.

Applicants traverse all of the rejections in the Office Action and respectfully request reconsideration and passage of the claims to allowance for the following reasons.

Claims 1-19 patentable over Lumelsky and Mann under §103

The Office Action rejected claims 1-19 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,377,996 to Lumelsky et al. ("Lumelsky") in view of U.S. Patent No. 5,862,312 to Mann et al. ("Mann").

According to MPEP §2143, to establish a *prima facie* case of obviousness under §103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Office Action failed to establish a *prima facie* case of obvious, because there are many specific distinctions believed to render the claims patentable over the combination of Lumelsky and Mann. For example, the combination of Lumelsky and Mann fails to teach or suggest extents that contain an amount of information retrieved from one of an array of storage devices during one service period. As another example, the combination of Lumelsky and Mann fails to teach or suggest determining whether a transitional extent can be retrieved within a transitional extent deadline.

Independent claim 1 (and similarly claims 15 and 17) specifically recites:

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1. "A method for performing user migrating, comprising:
for a content stream being provided to a user from a source server module, determining a transitional extent that defines an appropriate first extent to be provided to said user via a destination server module, said content stream being divided into a plurality of extents, including said transitional extent, said appropriate first extent, and a plurality of subsequent extents;
determining whether said destination server module is capable of retrieving said transitional extent from an array of storage devices within the transitional extent deadline; and
causing said destination server module to provide said transitional extent and said subsequent extents to said user, each extent containing an amount of information retrieved from a single storage device of the array of storage devices during one service period." (emphasis added)

The combination of Lumelsky and Mann fails to teach or suggest determining whether a transitional extent can be retrieved within a transitional extent deadline, as claimed. Mann fails to disclose any such transitional extent deadlines. The Office Action alleged that "time out" and "deadline segmentation marker" in Lumelsky meet these elements. Lumelsky discloses a "time out" by the main server that is different from the claimed invention. (Lumelsky, col.10, lines 55-63). If the target server ignores the migrating request, this causes the main server to "time out". This is completely different than the claimed determination of whether a transitional extent can be retrieved within a transitional extent deadline. Lumelsky also discloses a "deadline segmentation marker field 1280", which is different from the claimed transitional extent deadline. The "deadline segmentation marker field 1280" is a field in a data structure used "to facilitate the negotiation of a common start point in an arbitrary stream". (Lemselsky, figure 13, col. 14, lines 21-24). Finding a common start point is completely different than determining whether a transitional extent can be retrieved within a transitional extent deadline, as claimed.

The specification specifically recites on page 7, lines 27 to page 8, line 6:

Each server module 220 (within the information server 125) includes a respective buffer. Each buffer memory is capable of holding at least one service period (i.e., one extent) worth of information retrieved from a disk array 110 via the respective server module 220. Each buffer 225 is coupled to a switch 230.

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The switch 230 operates to multiplex the contents of each buffer 225 in a round robin fashion to produce an output stream OUT that is coupled to the transport processor 150 for subsequent transport to the appropriate subscribers 106 via the forward application transport channel (FATC) supported by the distribution network 140. The exemplary embodiment uses a service period of two seconds. Thus, each extent retrieved from a single disk within a disk array 210 comprises two seconds worth of information, illustratively, video information and associated audio information. (See Applicants' specification, page 7, lines 27-31 and page 8, lines 11-18, and Figures 2, and 3A and 3B). (Emphasis added)

The subject application relates an extent to, illustratively, a service period of retrieved information of output from a memory device such as a disk drive array (reference the text beginning on page 7, line 27 through page 8, line 18 of the subject application). See also elements 110 (disk arrays) shown in Figure 2 and its associated text. Thus an extent represents a fixed amount of data, with that amount depending on the memory device.

Lumelsky does not even hint at the idea of an extent. It is clear from at least the portion of the Applicants' Specification depicted above that the invention of the Applicants is directed, at least in part to retrieving information from the storage device in a manner that efficiently manage data retrieval time. Specifically, Lumelsky does not disclose each extent is equivalent to the amount of information retrieved from a single storage device of an array of storage devices during one service period.

The Applicants respectfully submits that, in contrast to the Applicants' invention, there is absolutely no disclosure, teaching, or suggestion in Lumelsky for defining an extent for migrating a user's content stream. In particular, the Lumelsky reference discloses inserting segmentation markers into each of the content streams prior to the streaming and after the encoding of the content thereby forming segments of L bytes where L is an arbitrary integer. Specifically,

"Segmentation markers, to be identified by the client, are overlayed over a stream at precise locations. The placement of segmentation markers within a stream is content independent. According to one aspect of the present invention, the placement of segmentation markers is based on a globally known constraint, such as every L number of bytes of original data."

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"In the preferred embodiment, this is accomplished prior to the decoding of the stream through the steps of:

- a) inserting segmentation markers into a stream prior to the streaming and after the encoding;
- b) exchanging information between switching parties in terms of segmentation markers during a seamless switch; and
- c) identifying, locating, and removing these segmentation markers in any such stream at the client."

(See Lumelsky, column 11, lines 33-40, column 8, lines 4-23, and Figures 4-6).

It is clearly evident from the disclosure of Lumelsky that there is absolutely no disclosure for a migrating method or apparatus for determining "a transitional extent... each extent containing an amount of information retrieved from a single storage device of an array of storage devices during one service period." Lumelsky discloses a hand-off message informing the target servers with a control message. Markers are inserted into the content stream which are used by the target server to schedule the switch and allow for the client to continue receiving the content stream without too much interruption. There is absolutely no suggestion, teaching or disclosure that any of the L byte segments defined by the segmentation markers of Lumelsky are extents. Specifically, Lumelsky does not disclose, teach or suggest that the L bytes should be determined with respect to the service period.

Nowhere in the Lumelsky reference is there any teaching, or even suggestion of an extent, as defined by the Applicants' invention. That is, nowhere is there any disclosure, teaching or suggestion of "each extent containing an amount of information retrieved from a single storage device of an array of storage devices during one service period." Rather, the Lumelsky reference merely discloses segmentation markers used by the target server to schedule the switch of the servers where the markers define a segment. Lumelsky does not disclose or even mention a transitional segment; therefore, Lumelsky does not disclose the target server using a transitional segment.

As explained above, a segment is not an extent. Even if Lumelsky discloses, teaches or suggests a transitional segment, it is not a transitional extent. A transitional extent includes an amount of information that maximizes the retrieval efficiency of the disk array. This inventive aspect is not disclosed, taught or suggested by Lumelsky.

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Mann also fails to teach or suggest extents that contain an amount of information retrieved from one of an array of storage devices during one service period. By contrast, Mann merely refers to "video data objects". (Mann, abstract, col. 10, lines 32-50).

As such, Applicants submit that independent claims 1, 15 and 17 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Furthermore, claims 3-14, 16, 18 and 19 depend, either directly or indirectly, from independent claims 1, 15 and 17 and recite additional features thereof. As such and at least for the same reasons as discussed above, the Applicants submit that these dependent claims are also not anticipated and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the Applicants respectfully request that the Examiner's rejections be withdrawn.

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CONCLUSION

For the foregoing reasons, Applicants respectfully request reconsideration and passage of the claims to allowance. If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Lea Nicholson or Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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Lea A. Nicholson
Registration No. 48,346
Attorney for Applicants

MOSER, PATTERSON & SHERIDAN, LLP
595 Shrewsbury Avenue, Suite 100
Shrewsbury, New Jersey 07702
Telephone: 732-530-9404
Facsimile: 732-530-9808

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